UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/635,753	08/05/2003	Gary B. Gordon	10030181-1	9648

57299 7590 09/26/2006

AVAGO TECHNOLOGIES, LTD.
P.O. BOX 1920
DENVER, CO 80201-1920

EXAMINER	
PHU, SANH D	

ART UNIT	PAPER NUMBER
2618	

DATE MAILED: 09/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/635,753	GORDON, GARY B.	
	Examiner	Art Unit	
	Sanh D. Phu	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *7/13/06*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,4-9 and 12-16* is/are rejected.

7)☒ Claim(s) *2,3,10,11,17 and 18* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is responsive to the Amendment filed on 7/13/06.

Accordingly, claims 1-18 are currently pending.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless -
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 4-9 and 12-16 are rejected under 35 U.S.C. 102(e) as being anticipated by Junod et al (2002/0126094), previously cited.

-Regarding to claim 1, see figures 6 and 7, and [0040-0046], Junod et al discloses device (see figure 7) having user proximity detection comprising:

a first circuit (comprising "measurement node" (Pull-up or down), (14, 50) of figure 6 and (122, 124) of figure 7) comprising an antenna (122, 124), wherein user proximity causes a change in reactance "capacitance" of said first circuit, (said change which inherently indicates a change in resonant frequency of said first circuit (for clarifying this inherency, see a pertinent reference Viereck (5,170,496), figure 1, col. 1, lines 27-38 and col. 2, lines 32-65, previously cited)), in such a way that when the user is not placing his/her hand on the antenna, the capacitance at the measurement node is determined by the parasitic capacitor (a few pF) present on the measurement node; and when the user hand is located on the antenna or close to the parasitic capacitor, the overall capacitance is determined by a combined capacitor consisting of the parasitic capacitor and the capacitor (50) (see [0024-0027, 0040-0044]; and

a second circuit (comprising (58, 72) of figure 6) coupled to said antenna, said second circuit operable to detect a change in an operating characteristic "sensitivity" to a user hand (120) of said antenna due to user proximity, wherein said change in said operating characteristic is detected based on a change in reactance "capacitance" of said first circuit, or namely based on the change in

resonant frequency of said first circuit since the change in reactance "capacitance" is an indication of the change in the resonant frequency (see [0042-0043]).

-Regarding to claim 4, as applied to claim 1, Junod et al discloses that said second circuit is operable to detect a change in reactance "capacitance" of impedance of said antenna.

-Regarding to claim 5, Junod et al discloses the device wherein said second circuit comprising voltmeter (a voltmeter is defined as a meter to measure level of voltage which shows in Fig. 6 including a circuit device (56, 50, 52, 70) of said second circuit to provide a measured voltage level of capacitance/flux at terminal (2) of comparator (58) for a comparison with a threshold (see figure 6, and [0041, 0042])).

-Regarding to claim 6, Junod et al discloses a circuit (130) (see figure 6) operable to control state of said device, wherein said state is based on said operating characteristic of said antenna (see [0044, 0045]).

-Regarding to claim 7, Junod et al discloses that said device is operated in a power saving mode when said operating characteristic indicates that a user is not proximate said antenna (see [0045, 0049, 0052]).

-Regarding to claim 8, Junod et al discloses that said device is operated in a radio frequency transmission mode when said operating characteristic indicates that a user is proximate said antenna (see [0044, 0051).

-Regarding to claim 9, as similarly applied to claim 1, see figures 6 and 7, and [0040-0046], Junod et al discloses a device (see figure 7) comprising:

a radio transceiver (128, 132) (see figure 7, [0044]);

an antenna circuit (comprising "measurement node" (Pull-up or down), (14, 50) of figure 6 and (122, 124) of figure 7) coupled to said radio transceiver wherein user proximity causes a change in resonant frequency of said antenna circuit (see [0024-0027, 0040-0044]); and

a circuit (comprising (58, 72) of figure 6) coupled to said antenna circuit, said circuit operable to detect capacitive loading of said antenna (see [0044, 40045]), which is based on a change in reactance "capacitance" of a circuit

comprising said antenna, or namely to detect an indication of a change in the resonant frequency of said antenna circuit.

-Claim 12 is rejected with similar reasons set forth for claim 5.

-Regarding to claim 13, Junod et al discloses a circuit (130) operable to control a power state of said device, wherein said state is based on said operating characteristic of said antenna (see [0044, 0045, 0051, 0052]).

-Regarding to claim 14, as similarly applied to claim 1, see figures 6 and 7, and [0040-0046], Junod et al discloses wireless data input device (see figure 7) comprising:

a radio transceiver (128, 132) (see figure 7, [0044]);

an antenna circuit (comprising "measurement node" (Pull-up or down), (14, 50) of figure 6 and (122, 124) of figure 7) coupled to said radio transceiver wherein user proximity causes a change in resonant frequency of said antenna circuit (see [0024-0027, 0040-0044]); and

a first circuit (comprising (58, 72) of figure 6) and (130) of figure 7) coupled to said antenna circuit, said first circuit operable to detect a change in a change in reactance "capacitance" of a second circuit being said antenna

circuit, or namely detect an indication of a change in the resonant frequency of the second circuit, wherein said first circuit is further operable to cause said radio transceiver to be operated in a power operational mode based on the indication of said resonant frequency (see [0044, 0045, 0051, 0052]).

-Regarding to claim 15, Junod et al discloses that said radio transceiver is operated in a low power operational mode when said operating characteristic indicates that a user is not proximate said radio transceiver, based on said resonant frequency (see [0045, 0049, 0052]).

-Regarding to claim 16, Junod et al discloses that said radio transceiver is operated in a high power operational mode when said operating characteristic indicates that a user is proximate said radio transceiver, based on said resonant frequency (see [0044, 0051)].

Allowable Subject Matter

4. Claims 2, 3, 10, 11, 17 and 18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

-Regarding to claims 2 and 10, the applied references fail to teach the

device wherein user proximity causes said resonant frequency to move closer to a frequency at which said antenna is operated.

-Regarding to claims 3 and 11, the applied references fail to teach the device wherein user proximity causes said resonant frequency to move farther from a frequency at which said antenna is operated.

-Regarding to claim 17, the applied references fail to teach the device wherein said antenna is tuned away from said resonant frequency of said second circuit with no user loading to said antenna and user proximity causes said resonant frequency of said second circuit to move closer to a frequency at which said antenna is tuned.

-Regarding to claim 18, the applied references fail to teach the device wherein said antenna is tuned near said resonant frequency of said second circuit with no user loading to said antenna and user proximity causes said resonant frequency of said second circuit to move farther from a frequency at which said antenna is tuned.

Response to Arguments

5. Applicant's arguments filed on 7/13/06 have been fully considered but they are not persuasive.

The applicant mainly argues that Junod et al does not teach the limitation "user proximity causes a change in resonant frequency of said first circuit" and "wherein said change in said operating characteristic is detected based on said change in resonant frequency of said first circuit".

The examiner respectfully disagrees. As explained in claim 1, set forth above, Junod et al teaches said first circuit (comprising "measurement node" (Pull-up or down), (14, 50) of figure 6 and (122, 124) of figure 7) comprising an antenna (122, 124), wherein user proximity causes a change in reactance "capacitance" of said first circuit, (said change which inherently indicates a change in resonant frequency of said first circuit (for clarifying this inherency, see a pertinent reference Viereck (5,170,496), figure 1, col. 1, lines 27-38 and col. 2, lines 32-65, previously cited)), in such a way that when the user is not placing his/her hand on the antenna, the capacitance at the measurement node is determined by the parasitic capacitor (a few pF) present on the measurement

node; and when the user hand is located on the antenna or close to the parasitic capacitor, the overall capacitance is determined by a combined capacitor consisting of the parasitic capacitor and the capacitor (50) (see [0024-0027, 0040-0044]; and a second circuit (comprising (58, 72) of figure 6) coupled to said antenna, said second circuit operable to detect a change in an operating characteristic "sensitivity" to a user hand (120) of said antenna due to user proximity, wherein said change in said operating characteristic is detected based on a change in reactance "capacitance" of said first circuit, or namely based on the change in resonant frequency of said first circuit since the change in reactance "capacitance" is an indication of the change in the resonant frequency of said first circuit (see [0042-0043]). Said teaching reads on the limitation "user proximity causes a change in resonant frequency of said first circuit" and "wherein said change in said operating characteristic is detected based on said change in resonant frequency of said first circuit", as claimed.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sanh D. Phu whose telephone number is (571)272-7857. The examiner can normally be reached on M-Th from 7:00-17:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew D. Anderson can be reached on (571) 272-4177. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Sanh D. Phu
Examiner
Division 2618

SP

MATTHEW ANDERSON
SUPERVISORY PATENT EXAMINER